UNITED STATES PATENT AND TRADEMARK OFFICE

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10/789,099	02/27/2004	Joseph L. Hellerstein	YOR920030549US1 (590.127)	9008

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EXAMINER
ZHE, MENG YAO

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2009*.
2a)☐ This action is **FINAL**.　　　　2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-23* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a)☐ All　b)☐ Some * c)☐ None of:
　　　　1.☐ Certified copies of the priority documents have been received.
　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.
　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-23 are presented for examination.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

3/24/2009 has been entered.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

*Whoever invents or discovers any new and useful process, machine, manufacture, or
composition of matter, or any new and useful improvement thereof, may obtain a patent therefor,
subject to the conditions and requirements of this title.*

Claims 12-22 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. under 35 U.S.C. 101

Regarding independent claim 12, the claim recites a "**system**" for "planning

and scheduling tasks". As currently recited the "system" comprises only computer

software element(s). Thus, the claim is a program per se and does not fall within any of the four enumerated categories of patentable subject matter in section 101.

For the same reasons discussed supra with respect to independent claim 1, dependent claims 13-22 fall outside the scope of § 101.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 12, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes, Pub No. 2002/0198923 (hereafter Hayes).

5.   As per claims 1, 12, 23, Hayes teaches a method for planning and scheduling tasks within at least one request for change (RFC) within a change window in a computing system, comprising the steps of :

deciding whether or not an RFC should be done (Para 44);

for each RFC to be done, assigning individual tasks within each RFC to a

acceptable servers; (Para 27, 29: a class corresponds to one RFC, and each device

need corresponds to individual tasks; Para 37);

for each RFC to be done, assigning the start times to said individual tasks (Para

46);

wherein the RFC describes at least one job to be done on at least one target

computing system (Para 26, 29);

wherein the set of tasks comprises of hardware changes and/or software

changes (Para 4, 27);

wherein the change window describes a period of time during which the RFC is

to be done (Para 30).

Hayes does not specifically state that the RFC comprises a set of tasks

interrelated by temporal and location-specific dependencies and that the precedence

constraints among tasks within the RFC are enforced.

However, Hayes does teach tasks that fetch information from a device (Para 26).

So collectively as a whole, these tasks together corresponds to a RFC, and it would

have been obvious to one having ordinary skill in the art at the time of the applicant's

invention that these tasks have location-specific dependencies in that they all have to

get the information from the same location, which is the device that stores the

information.

Hayes further teaches that each RFC has a time window and more specifically gives the example that job ABC has the task of downloading resources to all members of a class XYZ within an execution window (Para 35). Therefore, it would have been obvious to one having ordinary skill in the art that each task within the RFC, namely the tasks of downloading resources to X (task A), to Y (task B) and to Z (task C) have temporal dependencies in the sense that all these tasks have to be performed such that the sum of their execution time must fall within the time window. Furthermore, in the specific case that each job is for a subclass and that each job falls within a time window, it would have been also obvious to one having ordinary skill in the art that precedence in execution according to the time window would be enforced so that each job for a subclass that collectively corresponds to an entire RFC for the whole class are done in time sequential manner.

6.   Claims 3, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes, Pub No. 2002/0198923 (hereafter Hayes) in view of A Duality Approach to Admission and Scheduling Controls of Queues, Susan H. Xu, 1994 (hereafter Xu).

7.   Xu was cited in the previous office action.

8.   As per claims 3, 14, Hayes does not specifically teach maximizing the value of all RFCs done wherein the value is a profit value derived from performing a subset of the tasks; and wherein the profit value for each task is expressed as a value of performing the job minus the value of associated costs.

However, Xu teaches the step of maximizing the value of all RFCs done

(Abstract, lines 3-5); wherein the value is a profit value derived from performing a

selected subset of the tasks; and wherein the profit value for each task is expressed as

a value of performing the job minus the value of associated costs (Abstract; Pg 274, 2nd

Para), for the purpose of scheduling optimization.

It would have been obvious to one having ordinary skill in the art at the time of

the applicant's invention to modify the teachings of Hayes with maximizing the value of

all RFCs done wherein the value is a profit value derived from performing a selected

subset of the tasks; and wherein the profit value for each task is expressed as a value

of performing the job minus the value of associated costs, as taught by Xu, because it

allows for scheduling optimization.

Claims 4-7, 10-11, 15-18, 21-22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hayes, Pub No. 2002/0198923 (hereafter Hayes) in view of Games,

Critical Paths and Assignment Problems in Permutation Flow Shops and Cyclic

Scheduling Flow Line Envronments,1992, (hereafter Kiran).

9.   Kiran was cited in the previous office action.

10.   As per claims 4, 15, Hayes does not specifically teach maximizing the number of

RFCs done.

However, Kiran teaches the step of maximizing the number of RFCs done for the

purpose of optimization. (Pg 255, 1st and 2nd Para: by minimizing downtime, number of

tasks to be done is inherently maximized since downtime is utilized to perform more

tasks.).

It would have been obvious to one having ordinary skill in the art at the time of

the applicant's invention to maximizing the number of RFCs done, as taught by Kiran,

because it allows for optimization.

11.   As per claims 5, 16, Kiran teaches the step of minimizing total downtime (Pg 255,

1st and 2nd Para).

12.   As per claims 6, 17, Kiran teaches the step of minimizing the costs associated

with downtime (Pg 255, 1st and 2nd Para).

13.   As per claims 7, 18, Kiran teaches the step of minimizing the total execution time

in implementing a task (Pg 255).

14.   As per claims 10, 11, 21, 22, Hayes in view of Kiran doest not specifically

teaches the step of minimizing the average response time and the weighted average

response time of each RFCs. However, it would have been obvious to one having

ordinary skill in the art of scheduling optimization at the time of the applicant's invention

to optimize the response time of the RFC in order to optimize the entire scheduling plan

so that penalty is reduced.

15.   Claims 2, 8-9, 13, 19-20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hayes, Pub No. 2002/0198923 (hereafter Hayes) in view of Crawford

et al., Patent No. 6,456,996 (hereafter Crawford).

16.   Crawford was cited in the previous office action.

17.   As per claims 2, 13, Hayes does not specifically teach reserving all the servers

involved for the duration that begins at the start of the first task and ends at the finish of

the last task for each RFC that should be done.

       However, Crawford teaches the step of reserving all the servers involved for the

duration that begins at the start of the first task and ends at the finish of the last task for

each RFC that should be done (Column 5, lines 5-20) for the purpose of meeting

constraints.

       It would have been obvious to one having ordinary skill in the art to combine the

teachings of Hayes with reserving all the servers involved for the duration that begins at

the start of the first task and ends at the finish of the last task for each RFC that should

be done, as taught by Crawford, because it helps to meet constraints.

18.   As per claims 8, 19, Crawford teaches the step of maximizing the number of

RFCs meeting their deadlines (Column 4, lines 15-22).

19.   As per claims 9, 20, Crawford teaches the step of minimizing multiple deadline

penalties associated with the RFCs and/or their respective tasks (Column 4, lines 15-

22).

Response to Arguments

20.   Applicant's arguments filed on 3/24/2009 have been fully considered but are not

persuasive.

21.   In the remark, the applicant argued that:

i) Hayes does not teach for each RFC to be done, assigning individual tasks

within each RFC to acceptable servers.

ii) Hayes merely assumes jobs consist of a single task whereas the applicant

claims for a collection of multiple tasks.

22.   The Examiner respectfully disagrees with the applicant. As to point:

i) In Para 37, Hayes teaches routing client requests to plurality of servers. What

these requests are is basically resources need for devices to operate (Abstract).

So the server is responsible for the tasks of distributing resources to each client

device.

ii) As stated in the previous Final Action, Hayes teaches a class, which is a group

of devices containing many individual devices, each with its own resource needs.

So when a client requests for resources for an entire class, this will correspond to

the RFC, which contains many individual tasks that corresponds to the individual

task of resource distribution for each device (Para 27, 29, 30).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-

6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/
Primary Examiner, Art Unit 2194